

CHAPTER 2: HUMAN DEVELOPMENT AND DRUG USE

Human development

Human development is the result of a complex interplay of biology and experience.^{1 2} While genetic factors are important for child and adult outcomes, this chapter focuses primarily on the environmental contributors to human development.

Over the past half-century, our knowledge of human development has grown, but our understanding has been influenced by contemporary beliefs in each historical era. As summarised by Rutter, during the 1950s to 1970s, there was an uncritical acceptance of the lasting and irreversible effects of early childhood experiences and social disadvantage.¹ During the 1980s and early 1990s, a swing to a denial of environmental effects occurred. Rutter laments that today there is still a lack of differentiation between risk indicators and risk mechanisms and we still do not know why psychosocial disorders have increased. He suggests that, as these changes occurred over such a short period, they must be due to environmental (rather than genetic) changes.

Much of the research on human development focuses on mental health outcomes³⁻⁵ or delinquency behaviour.⁶⁻¹⁰

This section summarises concepts of human development across different stages of life, then presents research that focuses on how drug-use behaviours are shaped across the life course. A selection of themes that traverse the stages of life and are relevant to the aetiology of drug-use behaviours are then briefly discussed: resilience, stress and attachment. This chapter concludes with consideration of some of the structures that can have an impact on human development and drug use.

Human development: the early years

In recent years, awareness of the importance of the first years of life for the developing child has increased.^{11 12} As Hertzman noted:

The idea that early childhood experiences have long-term implications is not new. What is new, however, is the emerging understanding of how early childhood experiences can influence biology of the developing child in ways that can influence health, well-being and competence decades later. The knowledge base in this area is exploding. (p. 9)¹³

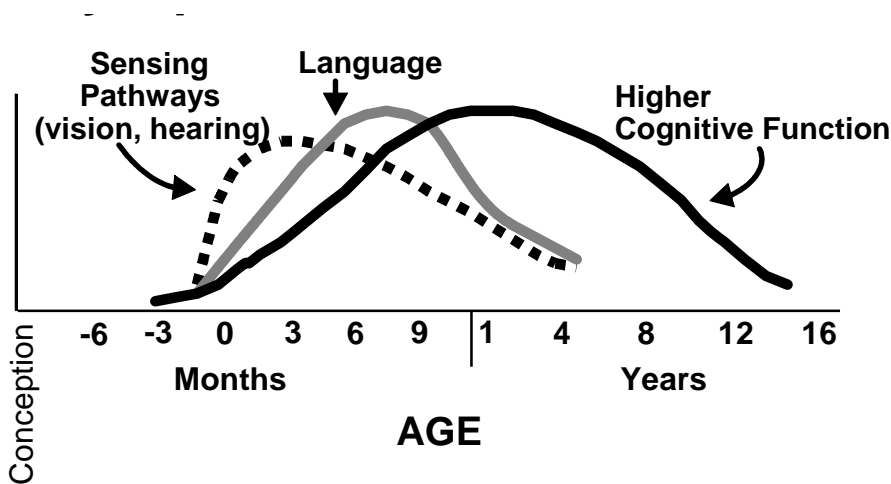
In a report to the Ontario Government in 2002, McCain and Mustard described how new evidence from a range of academic disciplines and research methods reaffirmed that experience-based brain development in the early years of life, including the *in utero* period, affects the following outcomes throughout life:

- learning: literacy, numeracy, academic achievement
- mental health and behaviour: antisocial behaviour, violence, drug and alcohol abuse, smoking

- physical health: coronary heart disease, blood pressure, type II diabetes, immune pathways, obesity. ¹⁴

In the early development of the brain, there is an initial over-production of neurons and synapses, which are later selectively pruned or sculpted. ¹⁵ This process is affected by environmental influences. There are sensitive periods for development during which children’s brains need appropriate stimulation to establish the neural pathways (Figure 1). Many of the critical periods for brain development have occurred by the age of six. Evidence indicates that children who do not receive the nutrition and stimulation necessary for development in the earliest months and years will have great difficulty overcoming these deficits later in life. Such children are more likely to develop learning, behavioural or emotional problems in later life.

Figure 1: Synapse formation



Source: The Founders Network www.founders.net/fn/slides.nsf/cl/fn-slides-01-003

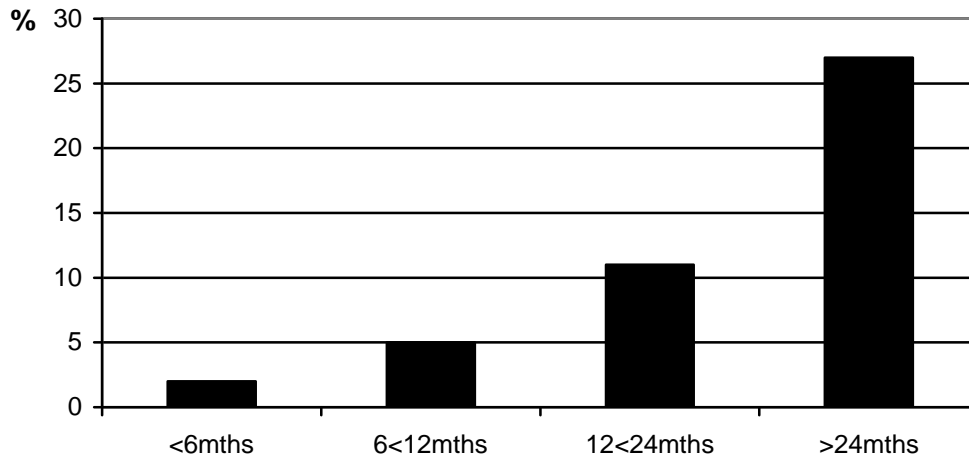
Research has shown a relationship between the ‘stress pathway’ and behaviour, learning and health. ¹⁴ Events during the prenatal period and the early years can affect the development of this pathway and influence neural responses to stress for the rest of the child’s life. This research could explain why children who experience early neglect or abuse show an increased risk in childhood and adult life of mental health problems such as depression, antisocial behaviour, drug abuse and learning difficulties.

An ongoing study of Romanian children who were severely deprived in early childhood and then adopted into homes in the United Kingdom provides strong evidence of early biological programming or neural damage stemming from institutional deprivation. For example, when the children first joined their families, 24 per cent of the adoptees injured themselves. Only one child from the comparison group of adoptees, who had been born in the United Kingdom, behaved this way. A dose–response relationship was evident with self-injury at age six associated with the length of time that the adoptee had been institutionalised. ¹⁶ (Figure 2) However, as Rutter and O’Connor noted, some heterogeneity in behaviour still occurred, suggesting that some resilience exists, even after severe deprivation:

The results at 6 years of age showed substantial normal cognitive and social functioning after the provision of family rearing but also major persistent deficits

in a substantial minority. The pattern of findings suggests some form of early biological programming or neural damage stemming from institutional deprivation, but the heterogeneity in outcome indicates that the effects are not deterministic. (p. 81) ¹⁷

Figure 2: Self-injury at age six: children from Romanian institutions by age on joining UK family (n=111)



Source: Beckett C, Bredenkamp D, Castle J, Groothues C, O'Connor TG, Rutter M, 2002, pp. 297–303 ¹⁶

It is important not to overstate the notion of ‘critical’ periods. ¹ Humans retain plasticity — the ability to learn and change — beyond early childhood, and are capable of great resilience. ¹⁸ As the United States National Research Council and the Institute of Medicine concluded:

What happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or a fragile stage for what follows. ¹²

Our ability to promote the healthy development of children rests on an understanding of the complex process of human development. Rutter reported that developmental research has consistently identified that child psychopathology has been associated with environments characterised by:

- discord and conflict, particularly involving negativity toward a child
- a lack of individualised personal care
- a lack of reciprocal conversation and play
- a negative social ethos or a social group that fosters maladaptive behaviour.

He noted that these environments involve the family, peers and the broader community.

Similarly, the National Research Council and Institute of Medicine listed ten core concepts of child development: ¹²

1. Human development is shaped by a dynamic and continuous interaction between biology and experience.

2. Culture influences every aspect of human development and is reflected in child-rearing beliefs and practices designed to promote healthy adaptation.
3. The growth of self-regulation is a cornerstone of early childhood development that cuts across all domains of development.
4. Children are active participants in their own development, reflecting the intrinsic human drive to explore and master one's environment.
5. Human relationships, and the effects of relationships on relationships, are the building blocks of healthy development.
6. The broad range of individual differences among young children often makes it difficult to distinguish normal variations and maturational delays from transient disorders and persistent impairments.
7. The development of children unfolds along individual pathways whose trajectories are characterised by continuities and discontinuities, as well as by a series of significant transitions.
8. Human development is shaped by the ongoing interplay between sources of vulnerability and sources of resilience.
9. The timing of early experiences can matter, but, more often than not, the developing child remains vulnerable to risks and open to protective influences throughout the early years of life and into adulthood.
10. The course of development can be altered in early childhood by effective interventions that change the balance between risk and protection, thereby shifting the odds in favour of more adaptive outcomes.

Perhaps worth highlighting in the context of drug use is point (3) above: the development of self-regulation. As discussed by Culbertson, Newman and Willis:

The ultimate goal of self-regulation is that children will learn to modulate their emotional and behavioural responses to events in their environment (especially stressful events); delay their gratification; remain calm and focused; realise that their behaviour, thoughts and feelings can be related to consequences; and bring their behaviour into conformity with the rules of a specific environment or context. These goals are typically mastered developmentally by the age of 4 years. (p. 750) ¹⁹

Benefits of promoting early childhood development

As noted above, research suggests that good nutrition, nurturing and responsive care in the first years of life can improve outcomes for children's learning, behaviour, and physical and mental health throughout life. ¹⁵ In fact, promoting early childhood development provides multiple benefits in the short term and the long term, for children, their families and the broader society. Van der Gaag reviewed such evidence for a World Bank Conference in 2002 and described how early child development contributes to individual and societal development via four critical pathways: education, health, social capital and equality. ²⁰ These positive outcomes are summarised in **Table 1**. Van der Gaag noted that, while the evidence for the social capital pathway is currently suggestive rather than strong, the evidence for the other three pathways is strong.

Table 1: Summary of early childhood development (ECD) benefits for children, adults and society

Benefits	Pathways linking early childhood development to human development			
	<u>Education</u>	<u>Health</u>	<u>Social capital</u>	<u>Equality</u>
For children (immediate)	Higher intelligence, improved practical reasoning, eye and hand coordination, hearing and speech; reading readiness, improved school performance; less grade repetition and drop-out; increased schooling	Less morbidity, mortality, malnutrition, stunting, child abuse; better hygiene and health care	Higher self-concept; more socially adjusted; less aggressive; more cooperative; better behaviour in groups; increased acceptance of instructions	Reduced disadvantages of poverty; improved nutritional status, cognitive and social development and health
For adults (long-term)	Higher productivity; increased success (better jobs, higher incomes); improved childcare and family health; greater economic well-being	Improved height and weight; enhanced cognitive development; less infections and chronic diseases	Higher self-esteem; improved social competence, motivation, acceptance of norms and values; less delinquency and criminal behaviour	Equality of opportunity, education, health and income
For society	Greater social cohesion; less poverty and crime; lower fertility rates; increased adoption of new technologies; improved democratic processes; higher economic growth	Higher productivity; less absenteeism; higher incomes	Improved utilisation of social capital; enhanced social values	Reduced poverty and crime; better societal health; increased social justice; higher sustainable economic growth

Source: van der Gaag J, 2002, p. 73 ²⁰

Similarly, Belfield reviewed early childhood programs that aimed to improve educational outcomes and calculated cost-savings in the range of \$2,591–\$9,547 per child. The following benefits were observed for the short, medium and long term:

Short term:

For children:

- enhanced academic achievement
- improved health/nutrition
- increased well-being / less abuse

For parents/families:

- childcare time free for parent

For society/economy:

- income tax revenues from parents

Medium term:

For society/economy:

- greater school system efficiency:
 - reduction in special education
 - reduction of grade repetition
 - higher student learning productivity
- reduction in abuse/neglect
- lower reliance on public health care

Long term:

For children:

- higher likelihood of graduation/ college enrolment
- higher wages/employment probability
- lower teen-pregnancy/delinquency

For society/economy:

- 'sound basic education'
- increased income tax revenues
- lower welfare dependence
- reductions in delinquency/crime

Carneiro and Heckman, from the University of Chicago, working with the Forschungsinstitut zur Zukunft der Arbeit (Institute for the Study of Labour) in Bonn, reviewed alternative policies for promoting skill formation at different stages of the life cycle.²¹ They concluded that investments early in a child's life are more cost-effective than remedial interventions later in a child's life:

We demonstrate the importance of both cognitive and non-cognitive skills that are formed early in the life cycle in accounting for racial, ethnic and family background gaps in schooling and other dimensions of socioeconomic success. Most of the gaps in college attendance and delay are determined by early family factors. Children from better families and with high ability earn higher returns to schooling ... The evidence points to a high return to early interventions and a low return to remedial or compensatory interventions later in the life cycle. Skill and ability beget future skill and ability. (p. 1) ²¹

These reviews did not list drug prevention in their overviews of the benefits of early child development, but they did mention delinquency and crime. Given the shared aetiology and co-occurrence of drug abuse with delinquency/crime (see Chapter 1), the absence of drug use in the overviews is likely to be due to a lack of drug-use measures in the research, rather than a lack of relationship. For example, as concluded at the World Bank Conference on Investing in Children, the impacts of early child development on school and employment outcomes can break intergenerational cycles of poverty and other problems among disadvantaged families and communities, ²² and this is likely to reduce problematic drug use.

In summary, the early years are important for human development and problems in those years can have repercussions in later life. Promoting healthy child development is reportedly cost-effective in terms of a range of outcomes and is likely to contribute to the prevention of drug abuse.

Human development: the middle years

While substantial attention has been directed to the early years, and to adolescence, less attention has been paid to the years in between, when children are in infants and primary schools. Yet, as the Carnegie Council on Adolescent Development noted, this is an important period in child development, and it is a time for detecting and addressing any academic, social or other behavioural problems before they become firmly entrenched:

The years from three to ten are a crucial age span in a young person's life, when a firm foundation is laid for healthy development and lifelong learning. During these seven years, children make great leaps in cognition, language acquisition and reasoning, corresponding with dramatic neurological changes. They develop greater facility in intellectual problem solving and abstract thinking. Their store of knowledge swells, their attention span stretches, their capacity for reflection increases. They become more proficient in their oral and written communication and better able to relate ideas and feelings to their peers. They also develop greater capability to regulate their own behavior and resolve conflict peacefully. For most children in this age period, it is not too late to overcome earlier difficulties; nor is it too early to prepare for the challenges of early adolescence and middle school. (Executive summary) ²³

Similarly, Culbertson, Newman and Willis described how the period between ages six and eleven years is a time when significant cognitive and physical advances are made and developmental tasks include 'acquisition of symbol-associative learning, rule-based play, increased awareness of social expectations, and mastery of more complex cognitive and academic tasks' (pp. 756–757). ¹⁹ It is the time when some problems can first be identified, including learning disabilities, attention deficit hyperactivity disorder, oppositional defiant disorder, and anxiety problems. ¹⁹

Human development: adolescence

While the early years have suffered neglect in the past, there is now such attention on the early years that each and every year of a child's development is considered to be important.²⁴ The adolescent years are also important for many reasons, not least of which is that these are the years during which experimentation with drugs begins and the brain is still developing.²⁵⁻²⁸ Leffert and Petersen described the patterns of development during adolescence.²⁹ The main changes identified by their overview are outlined below:

- major hormonal changes that lead to puberty
- physical changes; for example, the development of breasts (girls) or facial hair (boys)
- increases in cognitive competencies, including:
 - abstract reasoning
 - decision-making ability — although decision-making abilities are not always sufficient for meeting the novel and sometimes emotionally charged situations faced during adolescence, such as sexual or drug experimentation
- developments in social relationships
 - family relationships: while there is a decrease in parental supervision as adolescents move towards autonomy, parents continue to be important sources of support
 - peer relationships: relative to friendships in middle-childhood, friendships in adolescence are more intimate, with more sharing of thoughts, feelings and activities; and are conducted under less parental supervision. During early adolescence, adolescents tend to socialise with small groups comprised of same-sex peers. During mid-adolescence, adolescents are more likely to socialise with larger groups united by a common interest. Members of these groups tend to share similar values as a result of both peer influence and group selection. That is, adolescents tend to choose groups that have compatible values in the first place.
 - sexual relationships tend to commence during adolescence.
- development of social and psychological autonomy
- increase in many psychosocial disorders, including drug abuse, crime, depression, suicidality and eating disorders
- important role transitions; for example, first sexual relationships, driving a car, and first job
- two critical tasks need to be accomplished:
 - temper the internal and external stressors of this period, such as school transition
 - prepare for life as an adult.

Siegel and Scovill have noted that adolescents have been somewhat demonised, and unfairly so:

Some teenagers, on occasion, do behave in a way that puts themselves and others at risk. But, given the numbers, they seem not to deserve the blanket, negative treatment they receive. (p. 767) ³⁰

As noted in Chapter 1, much of the ‘antisocial’ behaviour of adolescents is adolescent-limited ³¹ and is symptomatic of adolescents seeking appropriate pathways to achieving developmental tasks. ³⁰ Moffitt described adolescent-limited delinquency as a by-product of modernisation:

The earlier age of puberty and the extension of the period of childhood are generally overlooked as by-products of modernization, but they have important implications for the experience of youths. The years between 1938 and 1983 ... witnessed an incremental displacement of sons by their mothers as the family's secondary breadwinners. The shift of work away from farms, trades and small family businesses to factories and service industries has stopped adolescents from sharing the daily lives of older relatives. As Anderson has observed, fewer and fewer “old heads” are initiating young protégés into the adult world. Teens are less well-integrated with adults than ever before. What has emerged is an age-bounded ghetto from within which it seems advantageous to mimic deviant behavior. (p. 691) ³¹

Connectedness to a significant adult mentor, prosocial peer groups and environments that ‘increase the probability that teenagers will be able to negotiate successfully the tasks involved in becoming a healthy and productive adult’ (p. 785) ³⁰ are important for encouraging healthier outcomes for adolescents. ³⁰ For example, Siegel and Scovill described smoking and drinking as means of adolescents meeting the developmental need of transition to adulthood. They suggested that more formalised markers to acknowledge transitions be created. Further, Siegel and Scovill noted the need for ‘safety nets’ for adolescents who fail; for example, for those who drop out of school. For such youth, there need to be alternative environments in which they can develop commitment to societal values and be socially rewarded for participating in non-delinquent activities.

Leffert and Petersen described how major changes in the meaning of adolescence have occurred during the twentieth century. ²⁹ The changes described by Leffert and Peterson include:

- The social construction of adolescence changed; for example, youth cultures have developed and legislation relating to the legal age to drink alcohol, to vote, to have sex, to drive, to leave school and to leave home has changed.
- Changes in the ages of adolescent transitions have emerged. For example, there has been a reduction in the age of puberty, an increase in the average age of completing education, and the age of initiation of sexual relationships has decreased.
- The pattern of transitions has changed:

at the turn of the century in the UK most young people left school and started work at 14, some years *before* puberty, and some dozen years before marriage. By contrast, nowadays, most people do not leave school until well *after* puberty and many start cohabitation before completing tertiary education. (p. 85) ²⁹

- Adolescents in Western Europe, the United States of America and Japan are taller and weigh more than their counterparts 100 years ago.
- Adolescents experience greater exposure to stressors such as parental divorce, step-families, being a victim of crime, and drugs.

Benefits of investing in adolescents

While the benefits of investing in early childhood have been well articulated in the past decade, this should not be an excuse for neglecting investment in adolescents. Burt, for example, presented information from the Carnegie Council on Adolescent Development to argue for investment in adolescents. While the costs presented are for the United States of America, the points are relevant to the Australian context:

- Each year's class of high school drop-outs will, over their lifetimes, cost the nation \$260 billion in lost earnings and forgone taxes.
- Over a lifetime, the average high school drop-out will earn \$230,000 less than a high school graduate and contribute \$70,000 less in taxes.
- Each added year of secondary education reduces the probability of public welfare dependence in adulthood by 35 per cent (with associated reductions in public costs).
- Each year, the United States spends roughly \$20 billion in payments for income maintenance, health care and nutrition to support families begun by teenagers (p. 143).²⁴

Looking specifically at youth drug abuse and associated crime, Burt cited research by Cohen that provided 'an overall estimate of the "monetary value of saving a high risk youth" of \$1.5 to \$2.0 million' (p. 146).²⁴ In another paper, Burt and colleagues explored the costs and benefits of various policy choices relating to investing in adolescents.³² They investigated the pay-offs of interventions that reduce risk profiles and/or increase resiliency factors for a range of negative and positive outcomes for youths and the community. Their discussion and models illustrated how investing in youth is not about single interventions, but how a range of risk reduction and youth development interventions can have enduring and multiple benefits for youth and society. Their model has been used by the Common Solutions Project in Victoria to explore how different sectors can work together to improve outcomes for young people and the community.³³

At this stage of life, adolescents who are not faring well might be depressed, suicidal, have dropped out of school, be unemployed, smoking cigarettes, using alcohol and other drugs in a risky manner or be drug-dependent. What does society do when these problems occur? Do we have adequate mental health services, drug-treatment programs for adolescents, support for parents in crisis, intensive support for adolescents who come into contact with the police and the juvenile justice system? From the rates and trends of such problems presented in Chapter 1 and from the author's personal experience working with a drug-treatment program^a for adolescents, many of whom were involved with the juvenile justice system, it is apparent that we are not doing enough when things go wrong.

^a The Ted Noffs Foundation

Human development: transition to adulthood

Arnett has argued that the period of 'emerging' adulthood (around 18–25 years) be considered a distinct developmental period marked with, for example, new freedom and independent role exploration.³⁴ He noted how demographic and social changes in the past half-century have contributed to making 'the late teens and early twenties not simply a brief period of transition into adult roles but a distinct period of the life course, characterised by change and exploration of possible life directions' (p. 469). Arnett presented survey data in which nearly one-third of the sample in their late twenties and early thirties reported that they did not feel that their transition to adulthood was complete.³⁴

Young people in their early twenties need support to achieve developmental transitions to adulthood. Furlong has described how life has changed for young people since the mid-twentieth century, how young people face greater risk and uncertainty than in the past, and how they now risk being lost in the transition from school to work.^{35,36} He described how young people are staying in education for longer periods of time, post-secondary education is experienced by young people from a broader range of social positions, and transitions between education and employment are no longer linear as young people combine work and education or return to study after a period in employment.³⁶ These changes have contributed to greater commonality in the experience of young people (rather than class-based segregation), but 'in a flexible, deregulated, labour market there are no guaranteed rewards for any investment in qualifications' (p. 132).³⁶ Life as a young adult in modern times, therefore, is 'marked by discontinuities, uncertainties and backtracking' (p. 132).³⁶ In the context of modern values relating to individual responsibility, those who do not successfully manage this transition are blamed, and blame themselves, for their failure.³⁵

Human development: adulthood

Geronimus has argued for the importance of not neglecting the needs of adults (particularly in economically disadvantaged areas). Adults are essential to the vitality of families and communities, play critical social roles as economic providers and caretakers, and shape the expectations of youth and the propensity of youth to engage in risk taking.³⁷ Adults who are not managing well might be depressed, unemployed, homeless, socially isolated, involved in crime, or drug-dependent. Further, these negative outcomes tend to be concentrated. For example, 41 per cent of heroin users in the Australian Treatment Outcome Study had a prison history, most were unemployed and had mental health problems.^{38,39} The same question applies as asked above in relation to adolescents: What do we do to assist adults who are not managing well? Society tends to blame individuals for their own demise and be reluctant to help those who have failed to achieve. Drug-dependent people are marginalised. Those who end up in prison are incarcerated to protect society and to punish the offender, but inadequate effort is made to help offenders start a new life. Considering the high rates of drug problems among people in the criminal justice system, prisons represent an opportunity to assist drug-dependent people. The relationship between drug abuse and recidivism adds to the need to address substance-use issues among prisoners.^{40,41}

Overview of developmental tasks

Homel and colleagues summarised the developmental tasks of each developmental phase, and presented the risk factors for crime in each stage (Table 2). These risk factors

are also relevant for conceptualising the development of drug-use behaviours, although specific research in this area is presented in the next section of this chapter.

Table 2: Developmental phases, tasks and risk factors

Developmental phase	Developmental tasks	Risk factors for criminal behaviour
Prenatal/perinatal	Physical and neurological development	Parental drug abuse Adolescent pregnancy Inadequate prenatal care Birth injury Prematurity
TRANSITION TO PARENTHOOD		
Infancy	Affect regulation Attachment Developing autonomy Sense of self	Disturbances of attachment Inappropriate parenting Social isolation Inappropriate behaviour development
TRANSITION TO PRESCHOOL		
Preschool	Separation from mother Preparation for school Socialisation for transition Peer relationships	Inappropriate parenting Problem behaviours Peer difficulties Impulsivity and inattention
TRANSITION TO SCHOOL		
School	Adaptation to school Peer relationships Experiences of success and failure	School failure Lack of parental monitoring Inconsistent discipline Peer rejection
TRANSITION TO HIGH SCHOOL		
Adolescence	Defining identity Intimate relationships Developing value system Growth of autonomy in a context of peer conformity	Teenage pregnancy Risk-taking behaviour Unemployment Antisocial peers Lack of parental support
TRANSITION TO WORK AND ADULT RELATIONSHIPS		
Adulthood	Adult roles and responsibilities	Unemployment Poverty Homelessness Social isolation

Source: Adapted from *Pathways to prevention: developmental and early intervention approaches to crime in Australia*, 1999, p. 134 ⁴²

Another useful summary of human development is provided by Silburn.⁴³ Silburn modelled the pathways to poor outcomes and pathways to resilience (Figures 3 and 4). These figures show how drug-use behaviours and other problematic outcomes in adolescence are shaped by factors that commence at conception.

Figure 3: Pathways to poor outcomes

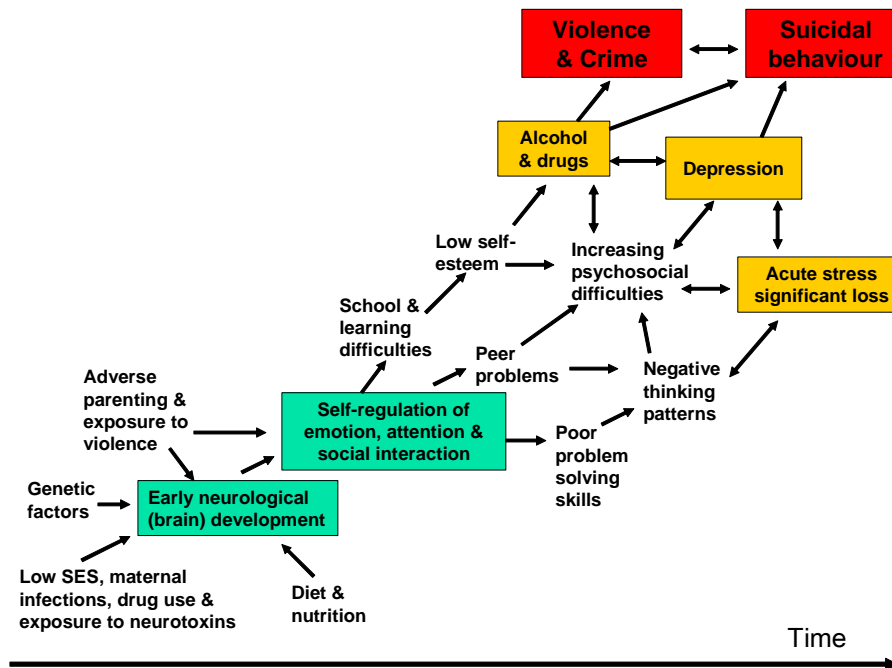
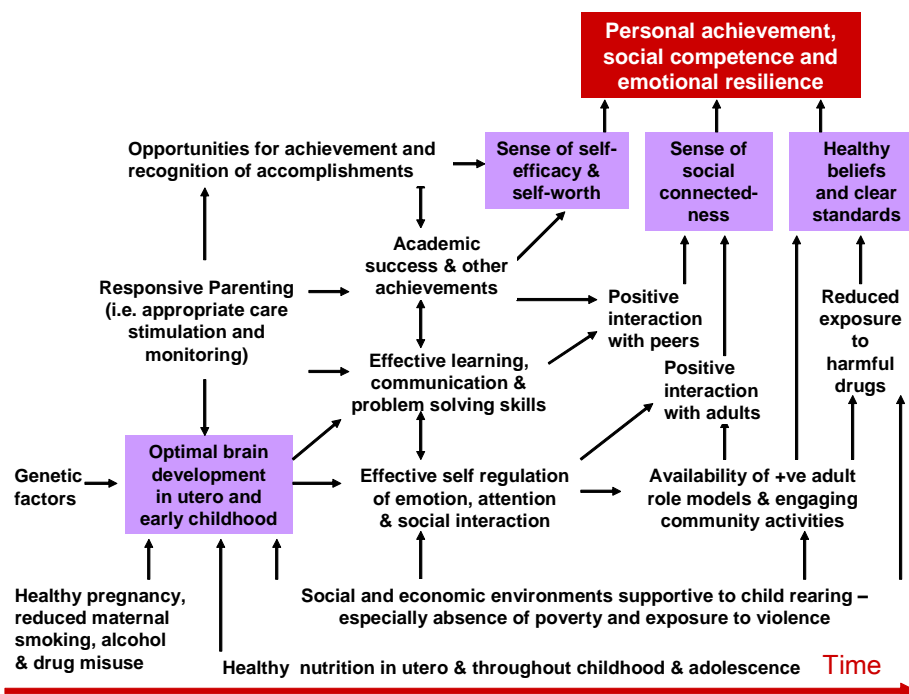


Figure 4: Pathways to resilience



Source: Silburn S, 2003⁴³

Trends in meeting developmental needs

The section above outlines how historical trends have impacted upon human development. Siegel and Scovill argued that children's and adolescents' developmental needs are not met as well today as they used to be, as a result of adolescents being raised separately from adults:

We contend that children's and adolescents' basic developmental needs are getting met less well now than before World War I and World War II. At a minimum, today's adolescents seem to be experiencing less connectedness with their families and the adult society. Historically, children were raised almost exclusively within a family or community context. Adolescents had adult mentors as they served in apprenticeships to learn their trade. Such an environment may have promoted closer, personal relationships between teenagers and adults and served to make adults the (sic) their official, socially sanctioned role models. Now there is less adult-adolescent interaction. As a result of the colonization of teenagers that occurred earlier in the century, teenagers spend less time with adults than ever before. Mentoring and apprenticeships as formal institutions for introducing teenagers into the adult world are virtually absent. Further, we fail to (a) articulate clearly our goals for "success" and (b) establish clear trajectories for teenagers to negotiate successfully entry into the adult world. Currently, schools and other large institutions are expected to take the role once filled by parents, individual adults, and neighborhood clubs and facilities. The ready availability of firearms, the omni-presence of TV and its icons, instantaneous distal communication via chatrooms on the internet, huge shopping malls, enormous high schools with high teacher-to-student ratio classrooms, and other changes in the last 50 years undoubtedly have contributed to a general sense of disconnectedness by teenagers. (pp. 781-782)³⁰

In summary, human development is a complex process, comprising a series of transitions and developmental tasks that can be hindered or aided by the environment (family, childcare, school, the workplace, the local community). Current social changes present challenges to positive human development. For example, the loss of opportunities for interaction between adults and adolescents, and the risks and uncertainties of the modern world, appear to be risk factors for development.

Developmental perspectives of drug use

Overview

In this section, we have summarised research describing how drug-use behaviours develop over the life course. By way of overview, Tarter traced the aetiology of drug abuse from conception, identifying how specific risk factors are salient at different times of life and how earlier factors set the scene for the development of further risk of drug abuse (Table 3).⁴⁴

Table 3: Development of drug abuse from gestation to adolescence

Period of life	Risk factors	Impact of risk factor	Exacerbating factors
Gestation	Drug use in pregnancy	Induce tolerance Disrupt neuroendocrine system development Neurological injury	More likely among low SES mothers
Neonatal and infancy	Difficult temperament	Impede parent–child bonding ↓ Increase likelihood of neglect ↓ Disengagement from family influence ↓ Increased unsupervised behaviour and opportunities for affiliation with socially deviant children	Deficient or neglectful parenting which is more likely among low SES parents
Preschool	Externalising (oppositional defiant disorder, conduct disorder, hyperactivity disorder) and internalising (anxiety, depression) disturbances	Non-compliance with adult expectations ↓ rebelliousness and conduct problems	
Primary school	Inability to regulate emotions and behaviour leading to failure to adjust to school	Social maladjustment Rejection by normative behaving peers Deficient academic performance ↓ negative self-perception	Cognitive limitations Inadequate parental supervision, rule setting and monitoring Weak parent–child attachment
High school	Exposure to drugs and drug-using social contexts	Drug use	Absence of adult supervision Job (money) Belief that drug use is normative Early maturation

Source: Tarter RE, 2002, pp. 171–191 ⁴⁴

In this report, we are particularly interested in how social factors influence the development of drug-use behaviours. For example, if adult supervision is a risk or

exacerbating factor, how do social structures influence the ability of parents to supervise their children?

Genetics

There is a wealth of research on the influence of genetic predisposition on drug-use behaviours.⁴⁵⁻⁵¹ The World Health Organization reviewed the literature and described how drug dependence appears to be caused by the interaction of several genes with environmental factors:

Thus, exposure to psychoactive substances could have a much greater effect on somebody who carries a genetic vulnerability to substance dependence, than on someone who does not. (p. 23)⁵²

Further, genetic differences appear to influence a number of aspects of drug use. These include the effects of drug use (including the subjective effects of pleasure), the toxicity of a drug (for example, overdose and chronic health effects), the intensity of psychoactive effects of a given formulation and dose of a drug, and the development of tolerance, withdrawal and craving.

Drug use in pregnancy

The womb is the first environment to which a person is exposed, and the first environment that can influence drug use in later life. One particular risk factor for later drug use is maternal use of alcohol,⁵³⁻⁵⁴ tobacco⁵⁵ and/or other drugs during pregnancy.⁵⁶ Maughan and colleagues analysed data from a study of 1116 twins in Britain, and concluded that the impacts of drug use during pregnancy on adolescent outcomes are difficult to isolate from other factors. This difficulty results from the finding that children of women who smoke or use drugs during pregnancy also tend to be exposed to a range of other risk factors such as low socio-economic status.⁵⁷

Drug use and early childhood experiences

Substantial research evidence demonstrates that adverse childhood experiences have detrimental impacts on child development and can contribute to later drug use.⁵⁸⁻⁶¹ The impact can be due to, for example, the impacts on the moral development of the child (Cicchetti 2004) and impacts on (exhaustion or desensitisation of) the child's stress response systems.⁶²⁻⁶⁵

Drug use and the middle years

The pre-adolescent period is important for the expression of mental health and other problems and the initiation of drug-use behaviours. Behaviour during these years (for example, early drug use and behavioural under-control) is highly predictive of later drug abuse.⁶⁶⁻⁷⁰ Feinstein and Bynner analysed data from the United Kingdom Birth Cohort Study of people who were born in 1970 and then resurveyed at ages 5, 10, 16, 26 and 30 (N=11,200).⁷¹ The study investigated how continuities and discontinuities in cognitive performance and socio-economic status at ages 5 and 10 predicted adult income, educational success, household 'worklessness', criminality, parenthood during adolescence, smoking and depression. The authors found that cognitive scores at age 5 predicted adult outcomes (supporting the importance of the early years). However, changes in developmental trajectories occurred between the ages of 5 and 10 years and these strongly predicted adult outcomes (highlighting the importance of the middle years). Socio-economic status was associated with the level of development at age 5 *and*

strongly moderated the chances of relative advancement or decline between ages 5 and 10 years. For those whose socio-economic status decreased from high to low ('fallers'), negative adult outcomes were more likely; for those whose SES increased from low to high ('escapers'), adult outcomes improved. The authors concluded:

The differences in outcomes between high-score persisters and fallers suggest that it is not being high quartile at age 5 that matters for these long-term outcomes so much as sustaining it to age 10. Scores at the two ages are correlated, and the argument is not that early scores or early influences do not matter; instead, it is that what happens in middle childhood can substantially alter any forecast based solely on early attainment. Development in this middle childhood period is a crucial element of a generally successful life course. Negotiating school and its tasks is not easy even for those with good signs of early cognitive promise. To protect against entry to negative pathways and reverse those that have already begun, continued investment in educational interventions is needed across all of middle childhood. (p. 1338)⁷¹

Specifically, Feinstein and Bynner recommended investment in education and reproducing or substituting the positive impacts of high socio-economic status in middle childhood, such as 'resource-rich and low-stress households, high parental interest in education, motivated and able peers, and beneficial school and out-of-school contexts' (p. 1338).⁷¹

Drug use and adolescence

Adolescence is the time of life when most drug use commences. Tarter described how characteristics of adolescence predispose adolescents to use and 'abuse' drugs^{b 44} (Table 4).

^b Tarter described the use of any drug apart from caffeine as 'antisocial' because it is illegal.

Table 4: Characteristics of adolescence as risk factors for drug abuse

Characteristic of adolescence	How this can contribute to drug abuse
Sensitivity to pharmacological effects of drugs	Larger quantities of drugs needed for desired effect, increasing the likelihood of disrupting the still-maturing brain, which in turn can mitigate psychosocial adjustment
Hormonal changes contribute to emotional lability	Negative effect is associated with drug abuse. Drugs can be used to ameliorate aversive emotional states
Phase shift in sleep cycle (late to bed, late to rise) can contribute to sleep deprivation when it is necessary to wake for school	Sleep deprivation is associated with impaired concentration, affecting school work and behaviour in school. These have been associated with drug abuse
Propensity to take risks	Novelty and sensation-seeking have been associated with drug abuse
Cognitive maturation (e.g. decision-making capacity) still developing	Poor choices are made regarding drug use, due to failure to appreciate consequences of actions
Executive cognitive function (e.g. strategic thinking, self-monitoring of behaviour during goal-directed behaviour) still developing	Behaviour is impulsive. This is predictive of drug abuse directly, as well as via other disorders such as conduct disorder, attention deficit disorder and hyperactivity disorder

Source: Tarter RE, 2002, pp. 171–191 ⁴⁴

Given the social roles of tobacco, alcohol and other drugs in combination with other changes occurring in adolescence as described above (for example, more time socialising with peers, less time with parents, identity formation), it is hardly surprising that drug use commences during this period. In light of other aspects of adolescence (for example, poor decision-making skills), it is a risky time to commence use. This combination of factors highlights the importance of harm reduction at this time.

Emerging adulthood

During the period of transition from adolescence to adulthood, freedom to use drugs and access to drugs increase. At the same time developmental challenges such as leaving home, commencing a career or completing tertiary education need to be managed. Schulenberg and Maggs reviewed the literature on alcohol use during the transition to college. ⁷² They described a number of developmental changes and how they impacted alcohol use. For example, this period is characterised by the desire to look (and appear) older and drinking alcohol can be a symbol of adulthood. Cognitive development affects perspective taking and decision making, so there is greater awareness of the benefits of drinking, less conviction that there are risks or costs with drinking, and greater identification of adult hypocrisy in relation to telling young people not to drink. During this period interactions with parents reduce while peer influences (including inflated norms of peer drinking) increase. Romantic and sexual relationships develop and alcohol can reduce inhibitions and give courage in this area, particularly for those with little

confidence or skills. For those attending college, exposure to cultural norms of heavy drinking on campus is often coupled with the stress associated with negotiating a new social and academic environment. Schulenberg and Maggs discussed how the transition to college needs to be facilitated to prevent problems relating to alcohol misuse, and that interventions are needed at the level of context; for example, by changing social norms of heavy drinking on campus. Young people entering college need to be assisted to balance their new freedoms with increased responsibilities, as too much of either can be detrimental and 'thwart the progression of mastery'.

People with a drug problem

Once a drug dependency is established, whether in adolescence or later in life, it is known to be a chronic, relapsing disorder.⁷³ While some people can quit smoking or control their alcohol or drug use on their own, the evidence suggests that treatment can help, and that social or family supports can also help.⁷⁴ There is no evidence that punitive approaches are effective in reducing problematic drug use. Recent moves to increase the diversion options for drug offenders are a positive step in the community's response to those whose drug use has contributed to offending behaviour.⁷⁵

Developmental issues

This section draws attention to three important aspects of development that are relevant across the life course: resilience, stress and attachment.

Resilience

Resilience refers to the ability to avoid negative outcomes despite being exposed to a high-risk environment. There has been an increasing interest in the notion of resilience in the past decade.⁷⁶⁻⁸⁶ Masten reviewed the longitudinal and cross-sectional research on resilience and identified ten protective factors that contribute to resilience:⁸⁷

- effective parenting
- connections to other competent adults
- appeal to other people, particularly adults
- good intellectual skills
- areas of talent or accomplishment valued by self and others
- self-efficacy, self-worth and hopefulness
- religious faith or affiliations
- socio-economic advantages
- good schools and other community assets
- good fortune.

While such variables have been associated with positive outcomes, the development of resilience is not a simple matter. Rutter has asserted that we still do not understand the factors that promote resilience.¹ Many factors are likely to be involved in its development, including 'prior experiences, how the individual deals with stress at the time, inherent qualities of the individual, and subsequent experiences'. Rutter further asserted that 'people may be resilient with respect to some types of experiences and yet very vulnerable with respect to others' (p. 10).¹ The related phenomena of steeling, sensitisation and kindling effects are relevant here:¹

stress experiences make individuals either more resistant or more vulnerable to later psychosocial hazards. The question then is what is it about the individual, or the experience, that leads to one outcome rather than the other? There is some suggestion that milder stresses, or, more likely, ones that are accompanied by successful coping and adaptation, tend to foster steeling, whereas overwhelming stresses that bring about maladaptation and unsuccessful coping lead to sensitization ...

A further phenomenon is that of so-called “kindling” effects. This term refers to the phenomenon of individuals becoming less responsive to environmental stressors as a result of having developed a disorder. It appears that in some circumstances the experience of disorder brings about changes in the organism that predispose it to perpetuation that is relatively independent of the environment. (p. 10)¹

It appears that no single protective factor is sufficient to provide resilience, and resilience does not mean ‘bullet-proof’ for life against all adversity. However, it is likely that the more protective factors there are, the greater the likelihood of resilience to a range of problem outcomes. It follows that programs and structures that promote and maintain these protective factors will build resilience to a range of adverse events, including drug abuse or dependence.

Stress

It is well established that prolonged stress is detrimental to mental and physical health.⁸⁸
⁸⁹ As summarised by Wilkinson and Marmot, prolonged stress resulting from long periods of anxiety and insecurity accompanied by insufficient social supports strains the body’s response system and results in physical and mental health problems.

Why do these psychosocial factors affect physical health? In emergencies, our hormones and nervous system prepare us to deal with an immediate physical threat by triggering the fight or flight response: raising the heart rate, mobilizing stored energy, diverting blood to muscles and increasing alertness. Although the stresses of modern urban life rarely demand strenuous or even moderate physical activity, turning on the stress response diverts energy and resources away from many physiological processes important to long-term health maintenance. Both the cardiovascular and immune systems are affected. For brief periods, this does not matter; but if people feel tense too often or the tension goes on for too long, they become more vulnerable to a wide range of conditions including infections, diabetes, high blood pressure, heart attack, stroke, depression and aggression. (pp. 12–13)⁹⁰

Kristenson and colleagues noted that people with low social status report more environmental challenges and less psychosocial resources and that this can lead to feelings of hopelessness and a loss of coping ability.⁸⁹ This individual-level effect can be exacerbated by living in socially unsupportive communities. Boardman’s analysis of area-level data from Detroit indicated that the impact of stress on physical health was stronger among residents from neighbourhoods with higher rates of residential mobility.⁹¹ Boardman argued that this demonstrated that social resources, as indicated by stable residential context, can buffer the negative impacts of acute and chronic social stressors.

Long-term stress or the experience of trauma, including early childhood traumatic experiences, has been associated with drug abuse.⁶²⁻⁶⁴ Taken together, such findings contribute to our understanding of why drug problems are more prevalent among people with low socio-economic status (Chapters 3 and 4) who live in disadvantaged communities⁹² and who have experienced long-term stress and lack of control, such as Aboriginal peoples and Torres Strait Islanders (Chapter 6). Furthermore, drug-dependent people can experience significant stress relating to low socio-economic status and marginalisation⁹³ and the generally risky and chaotic lifestyle⁹⁴ that is likely to exacerbate and perpetuate their drug-use problems.

Wilkinson and Marmot suggested that the policy implications arising from knowledge of the detrimental effects of stress were that governments need to address social exclusion and provide welfare and support for disadvantaged people and families:

In schools, workplaces and other institutions, the quality of the social environment and material security are often as important to health as the physical environment. Institutions that can give people a sense of belonging, participating and being valued are likely to be healthier places than those where people feel excluded, disregarded and used.

Governments should recognise that welfare programmes need to address both psychosocial and material needs: both are sources of anxiety and insecurity. In particular, governments should support families with young children, encourage community activity, combat social isolation, reduce material and financial insecurity, and promote coping skills in education and rehabilitation. (p. 13)⁹⁰

Attachment

Attachment has been identified as essential for human development, not only in early life,¹² but also in adolescence⁹⁵ and throughout the life course.^{19,96} Culbertson noted that infants are genetically biased to form attachment relationships with their primary care-givers, even when those care-givers maltreat the child.¹⁹ Only in severe circumstances, such as the severe institutional deprivation experienced by infants in Romanian orphanages in the 1980s, do infants fail to form attachments. Individuals who fail to form an attachment during childhood have difficulties forming attachments in later life. The quality of attachment is also important:

children who have secure attachment relationships are more socially competent and interact positively with peers at later ages than infants in avoidant, ambivalent or disorganised/disoriented relationships. (p. 748)¹⁹

It is not difficult to see the importance of attachment for the development of drug-use behaviours.⁹⁵ As reported by Lee and Bell:

The long-recognised connection between parent–adolescent attachment and adolescent risk behaviour is reflected in many sociologically based theories of delinquency, in theories pertaining to adolescent substance use and in analyses of risk and protective factors. Attachment within these theories typically is defined as emotional closeness to parents and is conceptualised as an indicator of the adoption of adult norms and expectations. Thus, attachment is designated as a protective factor for risk behaviour because it signals identification with conventional societal values. In contrast to these approaches, developmental

frameworks place more emphasis on the importance for adolescents of negotiating the move toward independence while at the same time maintaining affective bonds with parents ...

The attachment–autonomy balance concept is relevant for the study of risk behaviours in the following ways. First, to the extent that this balance is associated with developmental competencies (e.g. identity exploration, confidence and competence in peer relationships, good coping ability) these competencies should contribute to adolescents' abilities to handle experimentation with limits and to avoid excessive, problematic and dysfunctional involvement in risk behaviours. (pp. 347–348)⁹⁷

Similarly, alienation has proved to be predictive of drug use.⁹⁸ Hamil-Luker, Land and Blau's study of a nationally representative sample of youth aged 14–16 years in 1979 showed that social ties to schools, families, religion and the labour market influenced cocaine use through adulthood.⁹⁹

This research highlights the importance of family relationships, particularly early in life,¹² and social supports, particularly in later life when people have grown away from their families. It is also likely to be a factor in the success of mentor programs for the prevention of drug use and other problem behaviours.¹⁰⁰

Prevention and intervention across the life course

The above review of human development and the development of drug-use behaviours suggests the need for programs and structures that support healthy development from the antenatal period to adulthood. While recent (and valid) focus has been placed on the early years of life, we need to be careful not to overlook the remainder of the life course. Each developmental stage has its own challenges and needs which must be addressed.¹⁰¹

Addressing developmental transitions requires a multi-faceted approach. For example, Schulenberg and Maggs described five conceptual models of developmental transitions and how these can relate to health risks due to alcohol use: overload, developmental mismatch, increased heterogeneity, transition catalyst, and heightened vulnerability to chance events (Table 5).⁷² For example, the Overload Model suggests that alcohol misuse can be a coping mechanism when an individual is unable to cope with the multiple role changes demanded by a major life transition and is feeling overwhelmed. Accordingly, interventions could assist by helping to stagger the timing of transitions and increasing the coping capacities of the individual. The models are not mutually exclusive, and each model suggests different implications for interventions. Overall, Schulenberg and Maggs' paper highlights the need to consider supporting transitions from multiple perspectives: building resilience in individuals as well as creating environments with opportunities and supports to assist developmental transitions.

Table 5: Conceptual models relating developmental transitions to health risks

Model description	Examples	Intervention implications
<i>Overload</i> Multiple developmental transitions overwhelm coping capacities, resulting in increased health risk behaviours	Use of alcohol to attempt to cope with heightened stress caused by experiencing multiple transitions	Stagger timing of transitions; increase coping capacities
<i>Developmental mismatch</i> Developmental transitions alter the goodness-of-fit between individuals and their contexts, resulting in changes in health risk behaviours	Transition decreases match between needs of individuals and opportunities provided in context, resulting in seeking alternative contexts involving increased heavy drinking and other risky behaviours	Increase match between individual needs and opportunities in context; provide better matching alternative contexts
<i>Increased heterogeneity</i> Developmental transitions exacerbate individual differences in ongoing health/well-being trajectories	Individuals already running an emotional/psychological deficit have difficulty negotiating new transition, resulting in increased alcohol use as a form of self-medication	Through targeted efforts, counter individual deficits and social networks supportive of problems behaviours
<i>Transition catalyst</i> Health risk behaviours may assist in, or be fundamental parts of, negotiating certain developmental transitions	Alcohol use increases because it is believed to facilitate new friendship, romantic/sexual relations and social bonding	Provide alternative routes to meeting social and sensation-seeking goals
<i>Heightened vulnerability to chance events</i> Developmental transitions can increase likelihood and effects of positive and negative chance events	Increased exploratory behaviour of new contexts contributes to novel experiences, including heavy drinking and associated negative effects	Increase awareness of, and resiliency to, potential negative effects of chance events

Source: Schulenberg JE, Maggs JL, 2002, pp. 54–70 ⁷²

Homel and his team did an excellent job of promoting a developmental approach to crime prevention in their document *Pathways to Prevention*.⁴² Their approach is equally relevant for drug prevention, as demonstrated by the use of a life-course approach by the Victorian Drug Policy Expert Committee (reproduced in Table 6).¹⁰³ Many of the programs/initiatives are not drug-specific, but will have benefits in terms of child and youth development and the prevention of multiple problems.

Table 6: Interventions recommended by the Victorian Drug Policy Expert Committee

When	Involving	Example program/initiative
Antenatal	Parents, hospital, maternal and child health nurses	Clear information about impacts of parental smoking, drinking and other substance use on the newborn and child
		Preparation for parenting
	Maternal and child health nurses	Structured additional support for those mothers with particular needs (substance use or mental health problems)
Postnatal	Parents, maternal and child health nurses	Access to advice on parenting
		Family strengthening programs
0 - 5	Parents, childcare, preschool	Programs aimed at improving learning and emotional development in those particularly at risk
		Information for parents about modelling moderate substance use (for example, alcohol)
		Programs to integrate isolated mothers into parent networks
5–11	Teachers, student welfare officers, parents	Early years of schooling: transition to program to support emotional growth and social skills development
		Mechanisms for teachers to access advice and mobilise additional support for children displaying aggressive and poor socialisation skills (including bullying programs)
		Programs to prepare children for the transition from primary to secondary school
		Programs to link with community groups, sport and activities
		Mechanisms to support parents
11–18	Secondary school, other pathways to employment, media	Programs to support children in the transition from primary to secondary school
		A focus on emotional and personal development
		Development of mechanisms to involve and support parents
		Clear information about drug use in our community
		Development of a capacity to monitor truancy and school leaving
		Programs for reintegration into a learning environment for those who have ‘dropped out’
14–21	Workplace, universities, TAFE institutions	Development of targeted information about substance use for those entering the workforce, undertaking further study
		A program of support to assist young people in the transition from school to work, particularly those who leave school early
		Recreation and public space projects
		Early detection of psychosis and mental illness
21+	Professionals such as GPs, peers, workplace	Clear information about safe levels of drug use
		Support for GPs to provide advice about safe consumption levels (for example, alcohol)
		Information about drugs at work, including appropriate alcohol consumption at social functions (for employers and workplaces)

Source: Victorian Drug Policy Expert Committee, 2000 ¹⁰³

For those individuals who have begun to exhibit a problem behaviour (for example, primary school children exhibiting aggressive behaviour, high school students using drugs at school or truanting, adolescents and adults in detention), programs need to be in place to assist in reducing problems and helping individuals to get back ‘on track’. As

argued by Homel and colleagues, the earlier such intervention occurs, the better.⁴² However, it is never too late to intervene. For example, programs for high-risk youth have been demonstrated to be cost-effective.^{104 105} There is no excuse, on ethical or financial grounds, for failing to address problems when they arise.

STRUCTURES FOR CHILD AND YOUTH DEVELOPMENT

Structures such as families, systems and policies have important roles in the healthy development and prevention of problems among children, youth and adults. Systems include the early childcare system, the education system (preschools, infants schools, primary schools, high schools and tertiary education), workplaces, the welfare system, the health system, the justice system (including police, courts, probation and parole systems, and detention centres) and local councils. Families and systems need to be supported in this role. In the case of many systems, the role they play could be expanded or clarified to ensure their potential is realised. While it is not possible to review the roles and issues of all structures, some issues relating to some of these structures are presented below.

Families

Families are crucial for the healthy development of children and the role of families in the development of drug-use behaviours is well documented.^{84 106} Family risk factors for drug abuse, as identified in a review by Kumpfer and colleagues¹⁰⁷ and summarised in a review commissioned by the National Health and Medical Research Council,¹⁰⁸ are summarised in Table 7.

Table 7: Family factors associated with drug abuse

<p>Family history of behaviour problem, including:</p> <ul style="list-style-type: none"> - parental or sibling role modelling of antisocial values and drug-taking behaviours - favourable attitudes about drug taking - parental criminality, psychopathology and antisocial personality disorder and drug abuse
<p>Poor socialisation practices, including:</p> <ul style="list-style-type: none"> - failure to promote positive moral development - neglect in teaching life, social and academic skills to the child or providing opportunities to learn these competencies - failure to transmit prosocial values and to disapprove of youth's use of drugs
<p>Ineffective supervision of the child, including:</p> <ul style="list-style-type: none"> - failure to monitor the child's activities - neglect - latchkey conditions - sibling supervision - too few adults to care for the number of children
<p>Ineffective discipline skills, including:</p> <ul style="list-style-type: none"> - lax, inconsistent or excessively harsh discipline - parental behavioural under-control or psychological over-control of the child - expectations that are unrealistic for the developmental level of the child, creating a failure syndrome - excessive, unrealistic demands or harsh physical punishment
<p>Poor parent/child relationships, including:</p> <ul style="list-style-type: none"> - lack of parental bonding and early insecure attachment - repeated loss of caretakers - negativity and rejection of the child by the parents, including: <ul style="list-style-type: none"> o cold and unsupportive maternal behaviour o lack of involvement and time together, resulting in rejection of the parents by the child - maladaptive parent/child interactions
<p>Excessive family conflict and marital discord with verbal, physical or sexual abuse</p>
<p>Family disorganisation, chaos and stress</p> <ul style="list-style-type: none"> - often because of poor family management skills, life skills or poverty
<p>Poor parental mental health, including depression and irritability</p> <ul style="list-style-type: none"> - which cause negative views of the child's behaviours, parental hostility to child, and harsh discipline
<p>Family isolation</p> <ul style="list-style-type: none"> - lack of supportive extended family networks - family social insularity - lack of community support resources
<p>Differential family acculturation</p> <ul style="list-style-type: none"> - role reversal - loss of parental control over adolescents by parents who are less acculturated than their children

Source: Kumpfer, KL, Olds DL, Alexander JF, 1998, pp. 42–77 ¹⁰⁷

While substantial research has examined the role of parents on child development and drug use, there is less research into the societal factors that influence parenting. Assuming all parents want the best for their children, what factors support or hinder parents in providing the supervision and care that is needed? There is some concern about social trends (for example, increasing rates of parents in the workforce, sole parents, longer working hours) placing strain on the ability of parents to provide supervision and care.¹⁰⁹ While children might be understanding of their parents working and enjoy the material rewards,¹¹⁰ the fact remains that employment strains parents, in terms of time constraints and stress levels. The impacts of parental employment and childcare experiences are dependent on a number of factors, such as the nature of the working hours and the quality of childcare. For example, Shonkoff and colleagues discussed the impacts of maternal employment on early child development:

we have learned that maternal employment is too complex a phenomenon for simple comparison between young children with and without working mothers to reveal consistent differences. Rather, it is the circumstances of work, such as the income it generates, the proportion of the day the infant is spending in the presence of a security-giving, trusted caregiver, and related effects on family functioning that lie at the heart of how maternal employment affects young children. In particular, there is now evidence that non-standard working hours — which now make up a major share of jobs for poor working women — pose risks for children; and that going to work for long hours during the child's first year poses a risk to child development perhaps especially when trade-offs are involved from time in sensitive and stable parental care at home to time in poorer quality alternative care, as they often are. (p. 296)¹²

As discussed below, government policies such as those relating to welfare, childcare, taxation and industrial agreements are important in shaping the ability of parents to balance work and parenting, and in assisting disadvantaged groups to break the cycle of disadvantage.^{109 111} Further, high-quality and accessible early childhood programs (discussed above), mentor programs¹⁰⁰ and youth development programs^{112 113} can assist in the role of raising and supporting children and youth. With increasing rates of parents working and with up to 20 per cent of Australian children living in poverty (Chapter 1), such programs are becoming a social necessity rather than an optional extra.

Childcare system

Early childhood development programs include activities that support children's social, cognitive, physical, spiritual and emotional development. They include playgroups, preschool, childcare, child health surveillance, home visiting, parent education, kindergarten and programs for children with a developmental delay or disability. Many programs are bi-generational and are based on the recognition that influencing maternal health and well-being outcomes is a critical pathway to influencing child health and well-being.¹¹⁴ Reviews of these programs have concluded that early childhood development programs can improve readiness to learn, literacy and numeracy, school performance, school retention, and socialisation (including criminality and drug abuse); and decrease grade retention and special education.¹¹⁵⁻¹¹⁸ While the evidence is particularly strong for programs that target high-risk families, an association between quality universal early childhood services and outcomes has also been reported.¹¹⁵ In terms of cost-effectiveness, the evidence suggests that good-quality early childhood development

programs can be cost-effective, with returns being greater than the original investments.^{116 119} Examples of successful early childhood development programs often cited are:

- The Perry Pre-School Project (USA), a preschool program that emphasised active learning with children, demonstrated that for every \$1 spent in the program, \$7 in public expenditure was saved in later life (to age 27 years). Results at age 27 included lower involvement in drug dealing and other criminal activity as well as improved educational performance and employment.¹²⁰
- The Elmira Project (USA), a nurse home visitation program for high-risk mothers, which cost \$6,000 per mother–child pair, demonstrated over \$24,000 savings in public expenditure (criminal justice, welfare, health services) and increased tax in the first 15 years after the birth of the child.¹²¹

However, there are caveats on these findings. First, program outcomes have been mixed¹¹⁵ depending upon the quality and duration of program implementation. This in turn rests on the program plan, the quality of staff and the amount of funding available. Secondly, these programs were not externally evaluated, so results should be interpreted cautiously. Thirdly, results from overseas studies need to be tested in Australian settings. Finally, as noted by Brooks-Gunn, early childhood interventions on their own will show improvements, but are not a panacea.¹¹⁸

Education system

The education system spans from the early years (preschool) to adulthood (tertiary and vocational education). Does each level of education contribute as fully as possible to promote the development and well-being of its students? Issues relevant to answering this question are debated in the literature. For example, research that is relevant to Australia demonstrates systemic barriers to youth with lower socio-economic backgrounds in accessing higher education in the United Kingdom.^{35 122} Research and debate have also focused on the impact of the split in the school system between public, selective and private schools. Critics have argued that such a system results in disadvantages to those remaining in the public schools (such as the loss of positive role models and positive peer influences) and encourages social division within the community.¹²³ While all relevant issues cannot be discussed here, the notion of the role of schools in youth development is discussed.

Schools are in a unique position to influence child and youth development. They care for children five days a week from the age of around 5 years to around 17 years. In addition, they have substantial physical resources (buildings and land) which tend to shut down mid-afternoon, on weekends and during school holidays. With parents increasingly at work and communities increasingly deemed unsafe, schools have the potential to play a much greater role in child and youth development and problem prevention. Such a suggestion is not an argument for cramming more into the existing curriculum with existing teachers. Rather, it concerns increasing existing resources and changing the system.

One way to expand the role of schools is the notion of ‘full-service community schools’. Dryfoos defined full-service community schools, summarised the history of their development and described the results of evaluations and lessons learned from their implementation in the United States of America.¹²⁴ Full-service community schools have evolved in communities across the United States since around 1980. They have emerged

from a variety of origins and as a result adhere to no formal 'standards'. However, generally a full-service community school has the following features:

- operates in a public school building
- is open to students, families and the community before, during and after school, seven days a week, all year long
- is jointly operated and financed through a partnership between the school system and one or more community agencies
- is oriented toward the community, and encourages student learning through community service and service learning.

In practical terms, a full-service community school entails a full-time coordinator who works with the school principal to coordinate the delivery of a range of support services which are provided by local agencies. Full-service community schools operate like a 'one-stop shop' providing a range of health, welfare and other services. Activities are provided in some or all of the following areas:

- education for youth and adults
- positive youth development
- family support
- family and community engagement in decision making
- community development.

In the United States, full-service community schools have mainly been implemented in disadvantaged areas. The choice of activity or service has tended to be determined by need, interest and availability of resources in the community. Activities as diverse as the provision of clothes-washing facilities have been incorporated to attract parents to the program. While evaluations have tended to be unpublished and of poor quality, after reviewing the evaluations Dryfoos concluded that the reported results were sufficiently positive to warrant further trial and proper evaluation of the model. Most programs reported multiple positive outcomes, including reductions in drug abuse. Other outcomes have included:

- academic gains among participants
- improved school attendance among students and teachers
- reduced suspensions and disruptive behaviour in the classroom
- reductions in adolescent pregnancy
- improved access to health and other services
- increases in parent involvement
- lower rates of child abuse and neglect
- fewer out-of-home placements
- greater sense of adult (parent and teacher) support reported by students
- lower rates of community violence.

While these results are not from controlled trials and need to be empirically tested, the full-service school concept appears to have merit and to warrant consideration for an evaluation trial in Australia. There have been some trials of school programs in Australia that have incorporated elements of the full-service school concept; for example, the 'schools as community centres' program in New South Wales. However, these trials have

been limited to primary schools.^c It is recommended that such trials be carried out in Australian high schools.

There is some indication that the United Kingdom Government appears to be extending the role of schools consistent with the full-service community schools concept. In its five-year strategic plan for learning it aimed to address elitism in the school system and achieve a nation in which, for example, ‘all schools are extended schools; community schools; healthy schools; inclusive schools; and enterprising schools (with real links to business)’ (p. 5).¹²⁶

Social policies

A number of international reviews of social policies provide consistent support for policies that support families to raise children, rather than expecting parents to do so on their own. Three such studies are summarised below.

The United Nations Children's Fund Innocenti Research Centre (IRC) described child poverty in 23 wealthy member nations of the Organisation for Economic Cooperation and Development.¹²⁷ The data showed that child poverty in Nordic countries (Sweden, Norway, Finland) was substantially lower than in other nations, in both absolute and relative (reflecting inequality) terms, at around 3–5 per cent. This is compared with rates of absolute poverty in Australia of 16 per cent and relative poverty of 13 per cent. The IRC argued that these different rates in child poverty reflected Nordic social policies that:

- emphasised getting people into work; for example, by providing generous maternity leave (up to three years) and universal day care
- aimed at redistributing income to reduce inequalities
- emphasised universal rather than targeted approaches.

The IRC report noted that these policies had financial costs, so Nordic taxes are high. However, they argued that, due to the affluence enjoyed by Nordic countries, high taxes do not hinder economic growth, but provide positive outcomes such as low rates of child poverty and high rates of employment.

Mehrotra examined the policies that contributed to a set of ten developing countries achieving greater social development than expected on the basis of their national wealth.¹²⁸ This policy analysis highlighted the importance of education, social investment even during times of crisis, and involving women as agents of change rather than beneficiaries of welfare. Mehrotra summarised the findings with five principles of good social and economic policy. These are paraphrased below:

1. Public action had a pre-eminent role in social development, regardless of whether it took place in a centrally planned economy or a market economy.

^c A program called ‘full service schools’ was trialled by the Commonwealth Government to encourage young people to stay in high school. 125. Commonwealth Department of Education Training and Youth Affairs. National evaluation report: full service schools program. Canberra: Commonwealth Department of Education, Training and Youth Affairs, 2001. However, this was different from the model described by Dryfoos.

2. While the level of social spending was important for health and education outcomes, the equity of the intra-sectoral spending pattern mattered even more for social development.
3. Efficiency in the utilisation of human and financial resources was needed to ensure that social spending did not burden the government treasury.
4. A sequence of social investment was identified whereby educational achievement preceded, or took place at the same time as, the introduction of health interventions. The separate sectoral interventions had a synergistic impact on the health, educational and nutritional status of the population. That is, the sum of their impact was greater than the effects of the individual interventions.
5. Women were equal agents of change and not mere beneficiaries of a welfare state.¹²⁸

Phipps analysed existing data to identify the impacts of different types of social policies relevant to young children and families on child outcomes in five countries: Norway, the United Kingdom, the United States of America, Canada and the Netherlands.¹¹¹ The focus of her analysis was tax and transfer programs, but her analysis also included a discussion of health, education and childcare policies. The study was preceded by an analysis of the socio-demographic and cultural characteristics of the five countries, which identified the following factors in all five countries:

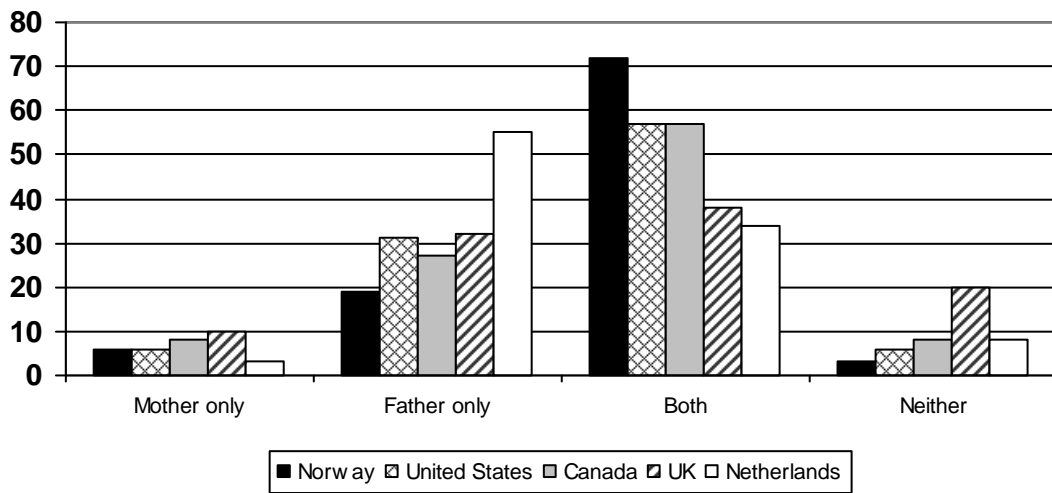
- Female labour force participation had increased while male labour force participation had declined somewhat.
- Fertility had declined.
- Divorce rates had increased dramatically.
- Income inequality had increased.

Differences between countries in the experiences of children were noted. For example, in the early 1990s, children were most likely to live in a lone-parent family in the United States of America, and least likely to live in a lone-parent family in the Netherlands. The rates were:

United States	31 per cent
Norway	24 per cent
United Kingdom	17 per cent
Canada	16 per cent
Netherlands	8 per cent

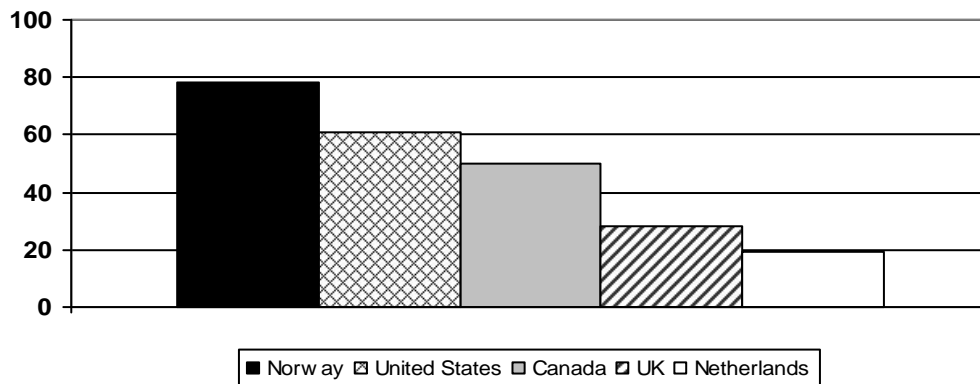
Data from the early 1990s from the Luxemburg Income Study Children showed differences between countries in the percentage of children living in two-parent and lone-mother households whose parents had a positive wage. Children from Norway were most likely to live in households in which both of their parents (Figure 5) or their lone-parent (Figure 6) worked.

Figure 5: Percentage of parents with a positive wage for children living in married-couple households



Source: Based on data in Phipps S, 1999, p 51 ¹¹¹

Figure 6: Percentage of parents with a positive wage for children living in lone-mother households



Source: Based on data in Phipps, 1999, p. 52 ¹¹¹

Citing previous research and data from the World Values Survey, Phipps reported differences in values between the five countries she examined that could influence their different social policies. People in Europe were reportedly more willing to accept social responsibility for children while people in North America were more likely to view children as a private responsibility. Attitudes towards inequality in income distribution indicated that Americans were the least egalitarian, Canadians were in the middle, and respondents living in the other countries, particularly Norway and the Netherlands, were significantly more egalitarian. When asked ‘Why do people live in need?’, respondents from the United States were most likely to believe it was due to laziness, while respondents from the Netherlands and Norway were least likely to believe it was due to laziness. Phipps noted:

These patterns accord with much cross-country comparative research on social policy in general, all of which groups Canada, the United States and the United Kingdom together as “liberal” countries very much focused on preserving efficiency through the maintenance of appropriate work incentives. That is, policy discussion in these countries is extremely concerned that “too generous” transfers will lead people, naturally lazy, to take advantage of the programmes by working less for pay and “enjoying” more time jobless. (p. 14) ¹¹¹

The comparison of the policies of the five countries is too detailed to summarise completely, but highlights are summarised. First, the Netherlands and Norway had larger state sectors (higher levels of taxation and spending on social security programs as a percentage of GDP) than the other three countries:

The United States had considerably lower levels of social spending than the other four countries. Virtually 100 per cent of families with children receive some social transfers in the Netherlands, Norway and the United Kingdom, given universal family allowances. Only half of families with children in the United States receive social transfers, but for those who do, this is a more significant component of family gross income. (pp. 55–56)

Second, tax structures varied in ways that could differentially benefit low- or high-income families:

In some countries, parents may be offered tax relief for dependent children through a tax exemption (which is of greater benefit to higher income families with higher marginal tax rates) or a tax credit (which is usually valued at the lowest marginal tax rate and so is of equal value for families of any income level). For example, the United States offers tax exemptions for children though it does not offer child benefits; Norway offers both child benefits and tax credits for dependent children; Canada, the United Kingdom and the Netherlands do not offer tax relief for dependent children. (p. 56)

Third, child benefits varied such that the United States was the only country that did not pay family allowances. Family allowances were universal in each of the other countries except Canada, which were income-tested from 1993. Fourth, maternity benefits were most generous in Norway (for example, 42 weeks fully paid parental leave, 52 weeks at 80 per cent pay, or return to work part-time with top-up of salary for up to two years; paid leave can be split between parents) and least generous in the United States (12 weeks of unpaid leave for public employees or firms with at least 50 employees). Fifth, a much higher percentage of children in Norway (73 per cent) received child support than in the other countries. Finally, for most children in the United States, health care had to be purchased privately whereas only 3 per cent of health expenditure in Norway was private.

Phipps characterised the social policy mix as follows (pp. 62–63):

1. In terms of overall level of support, Norway and the Netherlands spent the most on social programs in general and on children in particular. The United States of America spent the least.
2. In terms of children being regarded as a public or a private responsibility, children were more likely to be regarded as a public responsibility in Norway and the Netherlands than in the United Kingdom or the North American countries.

3. In relation to the extent people worried about work incentive effects, the European countries were much less concerned about generating negative incentives to take paid employment. They offered very generous transfers to single mothers in Norway, yet the rates of labour-force participation by single mothers were higher in Norway than in any of the other countries studied. Phipps suggested that this might be partially a result of the universal rather than income-tested nature of many of the benefits that were not lost as a result of labour-force participation. High labour-force participation by single mothers in Norway was also partially a result of the other supportive policies that were in place (for example, generous parenting leave programs and better childcare than in the North American countries). Phipps argued that the relative lack of concern about work incentives reflected basic social attitudes: individuals in Norway and the Netherlands were much less likely to believe that people live in need because they are 'lazy' than are individuals in Canada or (more particularly) the United States.
4. In relation to whether programs were largely targeted or universal, Norway, the Netherlands and the United Kingdom all provide a universal child allowance. The level of these benefits was most generous in Norway and the Netherlands. Canada provided an income-tested child benefit, whereas no family allowance at all was offered in the United States.
5. In relation to the type of benefits (in-kind transfers or cash), children received basic education from around six years in all countries and health care was also provided to all children in all countries except in the United States, where for most families it was the responsibility of the parents.
6. The United States was characterised as preferring to deliver benefits through the tax system rather than cash child benefits, but it did offer tax exemptions for dependent children. In comparison, Norway offered both and Canada did not allow exemptions/credits for dependent children.
7. On whether programs were designed to support mothers working at home, to support mothers working outside the home, or to allow choice between these options, the policies of Norway and the Netherlands diverged significantly. Norway offered more generous parenting leave programs, so mothers could readily participate in the paid labour force. In contrast, in the Netherlands, policy tended to support mothers to care for their children at home. Phipps described the policies in the United States as contradictory on this issue. On the one hand, social values seemed to favour the work ethic, yet programs to assist parents to participate in the labour force were almost non-existent.

Phipps noted that some might argue that Norway's higher taxes and more generous social spending are not advisable, as they would provide disincentives to work and be detrimental for the economy. However, she argued that Norway's favourable macro-economic performance suggests otherwise. Further, some would argue that only Norway can afford such spending because it is a wealthy country. Phipps' counter to this argument was that Norway is only now a wealthy country, and that the social programs were instituted at a time when Norway was much poorer than Canada or the United States. Phipps concluded:

The creation of the Norwegian welfare state was thus a choice about how to allocate resources; not just a luxury of a state with more resources to spend. (p. 81)

Having established the different policy mix of the five countries, Phipps described the effects of these different policies in terms of child well-being. Some examples of differential outcomes are provided below:

- There was much less family income inequality in Norway and the Netherlands than in the United States.
- The disparity in the living standards of children with single mothers compared with other children was lowest in Norway, and highest in the United States.
- Child poverty rates were high in the United Kingdom (19 per cent) and the United States of America (18 per cent), and dramatically lower in the Netherlands (6 per cent) and Norway (5 per cent). Canada was in the middle (13 per cent). Phipps noted that ‘the United States has the second-highest average income level, though the worst record in terms of poverty’ (p. 86).
- Child health outcomes (for example, birth-weight, accidents) generally favoured Norwegian children and were generally poorest for children from the United States.
- Differences were evident in emotional well-being and problem behaviours. For example, children from the United States were the most likely to be cruel or to bully others, children in the United Kingdom were most likely to be disobedient in school, and Norwegian children were much less likely to be anxious/frightened than children in other countries.

Phipps concluded: ‘Outcomes for children in Norway are consistently at least as good and in almost all cases better than for children elsewhere’ (p. 122). This was attributed to Norway spending more money on extensive universal programs for children and families. In short, the comparison of country policies and outcomes suggests that policies that are universal and supportive to families are not only associated with better health and social outcomes for children, but also appear to support economic wealth and equality.

Legal system

The regulatory system creates tangible incentives and disincentives for specific behaviours. There is a history of research on the impacts of drug laws and their enforcement on drug use and related problems.^{129 130} Most obviously, drug laws that proscribe the possession, use or sale of specific drugs act as a disincentive to drug use or certain forms of use (for example, drink-driving laws) or sale (for example, legislation regarding the supply of tobacco, alcohol and psychoactive medications). Burris and colleagues have discussed less direct impacts of laws and legal practices that can influence health (and drug-use behaviours) by both operating as a pathway for, and contributing to the shape of, the social determinants of health.¹³¹ By way of example, Burris and colleagues described how laws and legal practices can operate as a pathway for two social determinants of health (socio-economic position and social cohesion), as well as contributing to the existence of socio-economic disparities and low social cohesion. Their arguments are summarised below.

Laws and legal practices can operate as a pathway for social determinants of health to have an effect. For example, negative experiences with the law can have negative psychosocial effects which contribute to stress levels. These experiences tend to be more prevalent among people from lower socio-economic backgrounds, thus reinforcing the negative impacts of low socio-economic status on stress and further alienating marginalised groups and reducing social cohesion. Similarly, the law might be a means of

unevenly distributing exposure to pathogens (such as human immunodeficiency virus or hepatitis C virus) or pathenogenic practices (for example, needle sharing) so that low socio-economic groups or uncohesive communities are more exposed than high socio-economic groups or cohesive communities. For example, higher rates of arrest and incarceration of Indigenous people place Indigenous people at greater risk of exposure to unsafe drug use in prison than non-Indigenous people.

Laws and legal practices can also contribute to shaping the social conditions that can influence health. For example, the taxation system can contribute to economic equality and (thereby) social cohesion. Another example presented by Burris and colleagues was the laws allowing political parties to receive campaign funds from big business and wealthy interest groups (including the tobacco and alcohol industries). They argued that the result is a system dominated by the wealthy and their interests, rather than one accessible to the population as a whole. Such a system can have negative impacts on the population's faith in politicians and the political system and reduce the public's willingness to be involved in civil society. It can also create or exacerbate economic inequality. Burris' research indicates how the legal system can directly and indirectly affect drug use and suggests the need to thoroughly evaluate the impacts of the legal system on drug use and related harms.

CONCLUSIONS

As a society, we need to ensure healthy physical and mental development from early life, throughout adolescence and into adult life. This requires a balance of attention to child and youth development, problem prevention and assisting individuals who are experiencing difficulties. Structures and programs are needed to assist in meeting developmental tasks, and to assist as early as possible those who encounter difficulties, before problems develop into larger and less tractable issues. Further, for those individuals who have ongoing problems, such as drug problems, which tend to be persistent once established, appropriate assistance is needed. Punitive responses to people with drug problems only exacerbate the problems.

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